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BRIDGE BARRIERS AND RAILS **ENCROACHMENT PERMIT PROCEDURES**

Submittals.

Summarized below are references applicable to encroachment permit submittals. Structural submittals shall conform to the Caltrans Standard Plans, Bridge Design Specifications and Standard Specifications. Refer also to the Highway Design Manual and Encroachment Permits Manual.

References.

1. 2004 Standard Plans.

- B11-7, Chain Link Railing
- B11-47, Cable Railing
- B11-51, Tubular Hand Railing
- B11-52, Chain Link Railing Type 7
- B11-53, Concrete Barrier type 25
- B11-54, Concrete Barrier Type 26
- B11-55, Concrete Barrier Type 732
- B11-56, Concrete Barrier Type 736
- B11-57, Concrete Barrier Type 742
- B11-60 & B 11-61, Concrete Barrier Type 80
- B11-62, B11-63 & B11-64, Concrete Barrier Type 80SW
- B11-65, California ST-30 Bridge Rail
- B11-66 & B11-67, California ST-40 Bridge Rail
- B11-68, B11-69 & B11-70, California ST-10 Bridge Rail

2. XS-Sheets.

- 16-010, Barrier-Concrete Type 27
- 16-020, Barrier-Concrete Type 28
- 16-030, Barrier-Concrete Type 29
- 16-070, Barrier-Concrete Type 60 Steel Channel Closure detail
- 16-080, Barrier-Concrete Type 60 Transition At Sign post
- 16-090-1, Barrier-Concrete Type 60 Transition At Bridge Column
- 16-090-2, Barrier-Concrete Type 60 Transition At Bridge Column
- 16-100-1, Barrier-Concrete Type 60A and 60SA
- 16-100-2, Barrier-Concrete Type 60 Vertical Face for Side Of Road
- 16-120, Barrier-Concrete Type 736 Transition to Type 27
- 16-300-1, Chain Link Railing Type 2- Sheet 1 of 2
- 16-300-2, Chain Link Railing Type 2- Sheet 2 of 2
- 16-310, Chain Link Railing Type 3
- 16-320-1, Chain Link Railing Type 4- Sheet 1 of 2
- 16-320-2, Chain Link Railing Type 4- Sheet 1 of 2
- 16-330, Chain Link Railing Type 3L
- 16-340, Chain Link Railing Type 6
- 16-350-1, Chain Link Railing Type 7L- Sheet 1 of 2
- 16-350-2, Chain Link Railing Type 7L- Sheet 2 of 2
- 16-360, Chain Link Railing Type 7 Modified

3. Standard Specifications.

Section 83, Railings And Barriers

BRIDGE BARRIERS AND RAILS **ENCROACHMENT PERMIT PROCEDURES**

4. Manuals.

- Bridge Design Specifications (**BDS**), LFD Version, April 2000.
Section 2.7, Railings.
 - Item 2.7.1, Vehicular Railing
 - Item 2.7.2, Bicycle Railing
 - Item 2.7.3, Pedestrian Railing
 - Item 2.7.4, Structural Specifications and GuidelinesSection 3.14.3, Railing loading
- Bridge Memo To Designers (**MTD**), Volume 1.
Chapter 14, Railings and Barriers.
 - Topic 14-6, Bridge Railing Replacement.
 - Page 5, Bridge Barrier and Culvert Railings Retro-Fit Details.
- Highway Design Manual (**HDM**), Fifth Edition.
Chapter 200, Geometric Design Standards.
 - Topic 208.10, Bridge Railings.